

## Monitoring Epstein-Barr viral load assay after pediatric heart transplantation

*Wiklander-Winsness B., Ekman-Joelsson B-M.  
Queen Silvia children's Hospital, Gothenburg, Sweden*

**Introduction:** Posttransplant patients are at risk of developing posttransplantation lymphoproliferative disorder (PTLD) associated with Epstein-Barr virus (EBV) infection. PTLD is potentially life threatening, but can be treated with success. At our unit monitoring of EBV viral load assay in serum and whole blood has been routinely used since 2010.

**Objective:** To study the correlation between EB viral load assay and development of PTLD at our unit.

**Methods.** A retrospective study of the medical history and laboratory parameters has been conducted. This study has involved: EBV serology, EBV viral load assay in plasma and whole blood after pediatric heart transplantation in Gothenburg, Sweden, between January 2010 and December 2013.

**Results** The cohort consists of 30 subjects, two <18 years of age. Heart transplantation was performed at median 4 years (3 weeks - 17 years) of age. During the observation time 10 subjects remained seronegative for EBV. Twenty subjects were seropositive for EBV; two subjects with PCR showing up to 3 log copies/ml, ten subjects had 3-5 log copies/ml, eight subjects more than 5 log copies/ml. A mismatch where the donor was seropositive and the recipient was seronegative for EBV was found in six cases (unknown in three). Two of them developed PTLD within a year after transplantation; both had 3-5 log copies/ml at the time before diagnosis. Another two subjects were diagnosed with PTLD 4 and 15 years after transplantation, one had less than 3 log copies before diagnosis, the other had between 3-5 log copies/ml. Both died during the study period. In all four subjects where PTLD was diagnosed, suspicions was raised due to symptoms as pain and organ failure, EB viral load varied between two and 5 log copies/ml at diagnosis.

**Conclusions.** The majority (20/30) of posttransplant children at our unit had EB viral load in blood. In children with diffuse symptoms PTLD should be suspected even when PCR in serum is below 3 copies/ml.